

Application No. 09/744,678

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January 22, 2004

Reply to Office Action of August 25, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

1. (Currently Amended) A plant freshness-keeping composition comprising at least one surfactant (A), wherein said surfactant has a sugar structure or a sugar alcohol structure, and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F);

wherein either a hydrophobic group is bound via a glycoside linkage to the sugar or sugar alcohol in the component (A) and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition,

a hydrophobic group is bound via an ester linkage to the sugar or sugar alcohol in the component (A), or

a hydrophobic group is bound via an amide linkage to the sugar or sugar alcohol in the component ~~(A)~~ (A);

the ratio of (A)/(B) by weight is 0.00001 to 2.0; the ratio of (A)/(C) by weight is 0.0002 to 10000; the ratio of (D)/(A) by weight is 0.0002 to 1000; the ratio of (A)/(E) by weight is 0.0002 to 1000; or the ratio of (A)/(F) by weight is 0.00001 to 200;

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component (C) is at least one selected from the group consisting of a natural auxin, synthetic auxin, natural cytokinin, synthetic cytokinin and gibberellin; and

said composition comprises 0.0001 to 0.5% by weight of component (F).

2-5. (Canceled)

6. (Currently Amended) A method of preserving a plant with keeping the freshness thereof, said method comprising:

applying an effective amount of a plant freshness-keeping ~~composition,~~ composition to said plant, wherein said plant freshness-keeping composition comprises at least one surfactant (A), wherein said surfactant has a sugar structure or a sugar alcohol structure, and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F).

7. (Currently Amended) A method of ~~using a composition for~~ preserving a plant with a composition by keeping the freshness thereof, comprising the steps of:

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a) obtaining a sample comprising said composition, where said composition is in the form of aqueous solution or powder; and

b) applying said sample onto the plant;

wherein said plant freshness-keeping composition comprises at least one surfactant (A), wherein said surfactant has a sugar structure or a sugar alcohol structure, and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F).

8. (Original) The composition as claimed in Claim 1, wherein the sugar (B) is at least one selected from a monosaccharide, oligosaccharide and polysaccharide.

9-12. (Canceled)

13. (Previously Presented) The composition as claimed in Claim 1, wherein the aging inhibitor (D) is selected from the group consisting of: aminoethoxyvinyl glycine, aminooxyacetate hemihydrochloride, isopropylpyridine-aminooxyacetate-2-methoxy-2-oxoethyl ester, silver thiosulfate, silver thiosulfate complex salt, aminoisobutyric acid, 1,1-dimethyl-4-(phenyl sulfonyl) semicarbazide, cispropenyl phosphonic acid, sodium tetraborate, allocoronamic acid,

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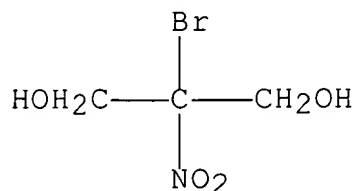
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aminotriazole, phenanthroline, diazocyclopentadiene, isothiocyanic acid allyl ester, 2,5-norbornadiene, 1-methyl cyclopropene and ethionine.

14. **(Previously Presented)** The composition as claimed in Claim 1, wherein the aggregating agent for colloidal particles (E) is selected from the group consisting of: an aluminum compound, a calcium compound, a combination of calcium chloride and phosphoric acid, and a polymer aggregate.

15. **(Previously Presented)** The composition as claimed in Claim 1, wherein the germicide, fungicide or preservative (F) is selected from the group consisting of: sodium hypochlorite, copper sulfate, 8-hydroxyquinoline, ethanol, isopropanol, methyl p-hydroxybenzolate, ethyl p-hydroxybenzolate, propyl p-hydroxybenzolate, butyl p-hydroxybenzolate, 1,2-benzisothiazolin-3-one, a compound represented by the formula:



or a cationic surfactant.

16. (Currently Amended) ~~The composition as claimed in Claim 3,~~ A plant freshness-keeping composition comprising at least one surfactant (A), wherein said surfactant has a sugar structure or a sugar alcohol structure, and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F);

wherein a hydrophobic group is bound via a glycoside linkage to the sugar or sugar alcohol in the component (A) and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition; and

~~wherein~~ the component (A) is selected from the group consisting ~~of:~~ of an alkyl glycoside, an alkyl polyglycoside, a polyoxyalkylene alkyl (poly)glycoside, an alkyl (poly)glycoside sulfate comprising an alkyl (poly)glucoside sulfated therein, a phosphated alkyl (poly)glycoside, a glyceryl etherified alkyl (poly)glycoside, a sulfosuccinated alkyl (poly)glycoside, a glyceryl-esterified alkyl (poly)glycoside, a carboxy-alkylated alkyl (poly)glycoside, a cationic alkyl (poly)glycoside, and a betaine alkyl (poly)glycoside.

17. (Currently Amended) The composition as claimed in Claim 4-1, wherein the hydrophobic group is bound via the ester linkage to the sugar or sugar alcohol in the component (A), and the component

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(A) is selected from the group consisting of: a sorbitan fatty acid ester, a polyoxyalkylene sorbitan fatty acid ester, a sucrose fatty acid ester, a sorbitol fatty acid ester, a polyoxyalkylene sorbitol fatty acid ester, a polyglycerol, a polyglycerol fatty acid ester, a glycerol fatty acid ester and a polyoxyalkylene glycerol fatty acid ester.

18. (Currently Amended) ~~The composition as claimed in Claim 1, A~~
plant freshness-keeping composition comprising at least one
surfactant (A), wherein said surfactant has a sugar structure or a
sugar alcohol structure, and at least one selected from the group
consisting of a sugar (B), a plant hormone (C), an aging inhibitor
(D), an aggregating agent for colloidal particles (E) and a
germicide, fungicide and preservative (F);

wherein either a hydrophobic group is bound via a glycoside
linkage to the sugar or sugar alcohol in the component (A) and said
component (A) is at a concentration of 0.0001 to 0.1 percent by
weight of said composition,

a hydrophobic group is bound via an ester linkage to the sugar
or sugar alcohol in the component (A), or

a hydrophobic group is bound via an amide linkage to the sugar
or sugar alcohol in the component (A);

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wherein the component (A) is a sugar-based fatty acid amide represented by the formula (1):



wherein R^1 is a C_{5-17} linear or branched alkyl, alkenyl or alkylphenyl group, R^2 is hydrogen, a C_{1-18} linear or branched alkyl or alkenyl group, $-(CH_2CH(R^3)O)_c-H$ (whereupon R^3 is hydrogen or a methyl group and c is a number selected from 0 to 10), $-CH_2CH_2OH$, $-CH_2CH(OH)CH_3$ or $-CH_2CH_2CH_2OH$, and X^1 is a polyhydroxy alkyl group comprising a C_{4-30} sugar residue.

19. (Previously Presented) The composition of Claim 1, wherein the ratio (A)/(B) by weight is 0.0001 to 1.0; the ratio of (A)/(C) by weight is 0.001 to 1000; the ratio of (D)/(A) by weight is 0.0002 to 1000; the ratio of (A)/(E) by weight is 0.0002 to 20; or the ratio of (A)/(F) by weight is 0.0001 to 100.

20. (Currently Amended) ~~The composition of Claim 1,~~ A plant freshness-keeping composition comprising at least one surfactant (A) and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F);

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wherein component (A) is sorbitan fatty acid ester, component (B) is selected from the group consisting of ~~of~~ of glucose, sucrose and fructose, and component (C) is ~~gibberellin~~ gibberellin;

wherein a hydrophobic group is bound via an ester linkage to said component (A), and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition.

21-26. (Canceled)

27. (Previously Presented) The method of claim 6, wherein either a hydrophobic group is bound via a glycoside linkage to the sugar or sugar alcohol in the component (A) and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition,

a hydrophobic group is bound via an ester linkage to the sugar or sugar alcohol in the component (A), or

a hydrophobic group is bound via an amide linkage to the sugar or sugar alcohol in the component (A).

28. (Previously Presented) The method of claim 7, wherein either a hydrophobic group is bound via a glycoside linkage to the sugar or sugar alcohol in the component (A) and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition,

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a hydrophobic group is bound via an ester linkage to the sugar or sugar alcohol in the component (A), or

a hydrophobic group is bound via an amide linkage to the sugar or sugar alcohol in the component (A).

29. (Previously Presented) The plant freshness-keeping composition of claim 1, wherein said hydrophobic group is bound via the ester linkage to the sugar or sugar alcohol in the component (A), and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition.

30. (Currently Amended) ~~The plant freshness-keeping composition of claim 1,~~ A plant freshness-keeping composition comprising at least one surfactant (A) and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F); wherein ~~said~~ a hydrophobic group is bound via ~~the~~ an amide linkage to the sugar or sugar alcohol in the component (A), and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition.

31. (Currently Amended) ~~The composition as claimed in Claim 16,~~ A plant freshness-keeping composition comprising at least one surfactant

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(A) and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F);

wherein the component (A) ~~having the~~ has a hydrophobic group bound via ~~the~~ a glycoside linkage to the sugar or sugar alcohol in the component (A), and component (A) is selected from the group consisting of an alkyl glycoside and an alkyl polyglycoside.

32. (New) The plant freshness-keeping composition of claim 18, wherein said component (A) is at least one selected from the group consisting of a polyoxyalkylene sorbitan fatty acid ester, a sucrose fatty acid ester, a sorbitol fatty acid ester, a polyoxyalkylene sorbitol fatty acid ester, a polyglycerol, a polyglycerol fatty acid ester, a glycerol fatty acid ester and a polyoxyalkylene glycerol fatty acid ester.

33. (New) A plant freshness-keeping composition comprising at least one surfactant (A) and at least one selected from the group consisting of a sugar (B), a plant hormone (C), an aging inhibitor (D), an aggregating agent for colloidal particles (E) and a germicide, fungicide and preservative (F);

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wherein component (A) is at least one selected from the group consisting of a polyoxyalkylene sorbitan fatty acid ester, a sucrose fatty acid ester, a sorbitol fatty acid ester, a polyoxyalkylene sorbitol fatty acid ester, a polyglycerol, a polyglycerol fatty acid ester, a glycerol fatty acid ester and a polyoxyalkylene glycerol fatty acid ester;

a hydrophobic group is bound via an ester linkage to said component (A), and said component (A) is at a concentration of 0.0001 to 0.1 percent by weight of said composition;

component (B) is selected from the group consisting of glucose, sucrose and fructose; and

component (C) is gibberellin.

34. **(New)** The plant freshness-keeping composition of claim 1, wherein said component (C) is at least one selected from the group consisting of indole-3-acetic acid, 2,4-dichlorophenoxyacetic acid, 2,6-dichlorobenzoic acid, naphthalene acetic acid, zeatin, kinetin, 4-benzyl aminobenzimidazole, benzyl adenine and a gibberellin.